Notice of Allowability	Application No.	Applicant(s)
	10/814,639	ADACHI ET AL.
	Examiner	Art Unit
	Sikha Roy	2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment filed 8/15/05*.

2. ☒ The allowed claim(s) is/are *1-11 and 14-25*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☒ Certified copies of the priority documents have been received in Application No. *09/940,887*.
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 6/29/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

The Amendment, filed on August 15, 2005 has been entered and is acknowledged by the Examiner.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Amanda Pitcher on September 1, 2005.

The application has been amended as follows:

In the Claims

The claims 1-11,14-25 have been replaced with following text.

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1. An organic electroluminescence device comprising a reflective element, an organic emissive layer, a phase plate, and a polarizer disposed directly on the phase plate in this order, wherein

polarization separators are provided between said organic emissive layer and said phase plate,

said polarization separators reflect specific light components from both ambient and electrically stimulated light traveling from said organic emissive layer side and pass the remaining light,

wherein said remaining ambient light is absorbed by said polarizer and a component of said remaining stimulated light is transmitted by said polarizer after conversion into a linear polarization by said phase plate,

wherein said specific light is in a wavelength range that is narrower than the light-emission wavelength range of said organic emissive layer,

said specific light includes a polarized light component which is absorbed by said polarizer after conversion into a linear polarizadon by said phase plate.

2. An organic electroluminescence device according to claim 1, wherein said polarization separators are cholesteric liquid crystal layers and said phase plate is a quarter-wave plate.

3. An organic electroluminescence display device comprising a reflective element, an organic emissive layer, a phase plate, and a polarizer disposed directly on the phase plate in this order, wherein

polarization separators are provided between said organic emissive layer and said phase plate,

said polarization separators reflect specific light components from both ambient and electrically stimulated light traveling from said organic emissive layer side and pass the remaining light,

wherein said remaining ambient light is absorbed by said polarizer and a component of said remaining stimulated light is transmitted by said polarizer after conversion into a linear polarization by said phase plate,

wherein said specific light is in a wavelength range that is narrower than the light-emission wavelength range of said organic emissive layer,

said specific light includes a polarized light component which is absorbed by said polarizer after conversion into linear polarization by said phase plate.

4. An organic electroluminescence device according to claim 1, wherein said organic emissive layer is organic thin films sandwiched by an optically transparent electrode and a metal electrode, and said metal electrode is a reflective electrode also serving as said reflective element.

5. An organic electroluminescence display according to claim 3, comprising: a plurality of light-emitting devices arranged in a matrix-form; and control means for controlling light-emitting operations of said light-emitting devices on the basis of image information.

6. An organic electroluminescence display comprising a reflective element, an organic emissive layer, a phase plate, and a polarizer disposed directly on the phase plate in this order, wherein

polarization separators are provided between said organic emissive layer and said phase plate,

said organic emissive layer includes an emissive layer of red light emission, an emissive layer of green light emission and an emissive layer of blue light emission,

said polarization separators reflect specific light components from both ambient and electrically stimulated light traveling from said organic emissive layer side and pass the remaining light,

wherein said remaining ambient light is absorbed by said polarizer and a component of said remaining stimulated light is transmitted by said polarizer after conversion into a linear polarization by said phase plate,

wherein said specific light is in a wavelength range that is narrower than the light-emission wavelength range of one of said emissive layer of red light emission,

said emissive layer of green light emission, or said emissive layer of blue light emission,

said specific light includes a polarized light component which is absorbed by said polarizer after conversion into a linear polarization by said phase plate.

7. An organic electroluminescence display according to claim 6, wherein said polarization separators are cholesteric liquid crystal layers and said phase plate is a quarter-wave plate.

8. An organic electroluminescence display according to claim 6, wherein a light-emission color layer differs depending on the pixel, and a reflective wavelength of said polarization separators is dependent on the pixel in correspondence to said light-emission color layer.

9. An organic electroluminescence display according to claim 6, wherein said organic emissive layer constructing a plurality of pixels executes a color display constructed by one of said emissive layer of a red light emission, said emissive layer of a green light emission, or said emissive layer of a blue light emission, a polarization separator for reflecting red light is pattern-formed at a position corresponding to said emissive layer of the red light emission, a polarization separator for reflecting green light is pattern-formed at a position corresponding to said emissive layer of the green light emission, and a polarization separator for reflecting blue light is pattern-formed at a position corresponding to said emissive layer of the blue light emission, respectively.

10. An organic electroluminescence display according to claim 6, wherein said polarization separators are pattern-formed in a matrix-form in correspondence to light-emitting regions of said organic emissive layer constructing said pixels, and a black matrix is formed between the patterns of said polarization separators.

11. An organic electroluminescence display according to claim 10, wherein an aperture of said black matrix is wider than the light-emitting regions of said emissive layer constructing said pixels.

14. An organic electroluminescence device or a display according to claim 1 or 6, wherein a center wavelength of the light emission of said organic emissive layer or a wavelength (peak wavelength) at which a maximum intensity is obtained almost coincides with a center wavelength of the reflection of said polarization separators at the position corresponding to said organic emissive layer.

15. An organic electroluminescence device or a display according to claim 1 or 6, wherein the reflective wavelength of said polarization separators at the position corresponding to a light-emitting region of said organic emissive layer is narrower than a light-emitting wavelength range of said organic emissive layer.

16. An organic electroluminescence device according to claim 1, wherein a center wavelength of the reflection of a polarization separator which is formed at a position corresponding to an emissive layer of a red light emission and reflects red light is set to be longer than a center wavelength of the light emission of said emissive layer or a wavelength (peak wavelength) indicative of a maximum intensity thereby allowing the light-emission wavelength range of said emissive layer and a reflective wavelength of said polarization separator to almost coincide with each other in a visible wavelength

range or setting the reflective wavelength of said polarization separator to be narrower the light-emission wavelength range of said emissive layer in a visible wavelength range.

17. An organic electroluminescence device or a display according to claim 1 or 6, wherein an organic electroluminescence device is formed on a first substrate, the polarization separators are formed on a transparent second substrate different from said first substrate, a forming surface of the first substrate where said organic electro-luminescence device has been formed and a forming surface of said second substrate where said polarization separators have been formed are overlaid and fixed.

18. An organic electroluminescence device or a display according to claim 1 or 6, wherein no substrate exists between said organic emissive layer and said polarization separators.

19. An organic electroluminescence device or a display according to claim 1 or 6, wherein a transparent insulation layer is provided between an optically transparent electrode and said polarization separators.

20. An organic electroluminescence device or a display according to claim 1 or 6, wherein a partition obtained by dispersing a pigment having a light absorbing property is provided into a non-light-emitting portion of said organic emissive layer.

21. An organic electroluminescence display according to claim 6, wherein said organic emissive layer constructing said pixels is an emissive layer for emitting white light, a polarization separator for reflecting red light, a polarization separator for reflecting green light, and a polarization separator for reflecting blue light are pattern-formed at positions corresponding to light-emitting regions of the emissive layer constructing said pixels, further, a color filter for transmitting red light is pattern-formed at positions corresponding to said polarization separator for reflecting the red light, a color filter for transmitting green light is pattern-formed at positions corresponding to said polarization separator for reflecting the green light, and a color filter for transmitting blue light is pattern-formed at positions corresponding to said polarization separator for reflecting the blue light, respectively.

22. An organic electroluminescence display device according to claim 6, wherein a polarization separator for reflecting light of narrower wavelength range than the wavelength range of said emissive layer of red light emission is disposed between said emissive layer of red light emission and said phase plate, a polarization separator for reflecting light of narrower wavelength range than the wavelength range of said emissive layer of green light emission is disposed between said emissive layer of green light emission and said phase plate, a polarization separator for reflecting light of narrower wavelength range than the wavelength range of said emissive layer of blue

light emission is disposed between said emissive layer of blue light emission and said phase plate.

23. An organic electroluminescence display device according to claim 6, wherein polarization separators for reflecting red light emission at a corresponding position to said emissive layer of red light emission, polarization separators for reflecting green light emission at a corresponding position to said emissive layer of green light emission, and polarization separators for reflecting blue light emission at a corresponding position to said emissive layer of blue light emission, are pattern formatted, individually.

24. An organic electroluminescence display device comprising a reflective element, an organic emissive layer, a phase plate, and a polarizer disposed directly on the phase plate in this order, wherein

polarization separators are provided between said emissive layer and said phase plate,

color filters are disposed between said polarization separators and said organic emissive layer for separately transmitting red light, green light and blue light,

said polarization separators reflect specific light components from both ambient and electrically stimulated light traveling from said organic emissive layer side and pass the remaining light,

wherein said remaining ambient light is absorbed by said polarizer and a component of said remaining stimulated light is transmitted by said polarizer after conversion into a linear polarization by said phase plate,

wherein said specific light is light of which the wavelength range is narrower than the light-emission wavelength range of said organic emissive layer, said specific light includes a polarized light component which is absorbed by said polarizer after conversion into a linear polarization by said phase plate.

25. An organic electroluminescence display device according to claim 3, wherein said polarization separator for reflecting red light is disposed between said organic emissive layer and said color filter for passing said red light emission, said polarization separator for reflecting green light is disposed between said organic emissive layer and color filter for passing said green light, and said polarization separator for reflecting blue light is disposed between said organic emissive layer and color filter for passing said blue light emission. --

In the Specification

Page 5 line 8, 'dye medius' has been changed to --dye medium--.

Page 5 line 14, 'color-changing mediums' has been changed to -- color-changing medium--.

Page 8 line 4, 'a enhanced' has been changed to --an enhanced--.

The title of the invention has been changed as submitted by the applicant in parent application 09/940,887 filed July 14, 2003.

-- LIGHT-EMITTING DEVICE AND LIGHT-EMITTING DISPLAY WITH A POLARIZATION SEPARATOR BETWEEN AN EMISSIVE LAYER AND A PHASE PLATE --.

Allowable Subject Matter

Claims 1-11 and 14-25 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

Regarding claims 1,3,6 and 24 the prior art of record neither teaches nor renders obvious an organic electroluminescence device with a reflective element, an organic emissive layer, a phase plate, a polarizer disposed directly on the phase plate and a polarization separator between the organic emissive layer and the phase plate, having all the limitations as claimed and particularly comprising the polarization separators reflecting specific light components from both the ambient and organic emissive layer and transmitting the remaining light, part of which is absorbed and part transmitted outside by the polarizer.

Claims 2,4,16 are allowed because of their dependency status from claim 1.

Claims 5 and 25 are allowed because of their dependency status from claim 3.

Claims 7-11,14-23 are allowed because of their dependency status from claim 6.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.R.

Sikha Roy
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PRIMARY EXAMINER